MININ, I.N.

Radiation pressure and the dynamics of planetary nebulae [with summary in French]. Vop.kosm. 6:211-220 '58. (MIRA 11:10)
(Cosmic physics) (Nebular hypothesis)

AUTHORS: Shifrin, K. S. and Minin, I. N. SOV/49-59-1-15/23

TITLE: Non-Horizontal Visibility Below a Continuous Layer of Cloud (Negorizontal'naya vidimost' pri sploshnoy oblachnosti)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1959, Nr 1, pp 131-138 (USSR)

ABSTRACT: Visibility in the atmosphere below a continuous layer of cloud is considered. A formula for calculating the contrast K is given, p 131, where h - height of the observation point, Θ - angle of observation, $B_o^o(\lambda)$ - brightness of an object on the Earth's surface, the brightness of which is $B_o^o(\lambda)$, λ - wavelength, $D(\lambda)$ - brightness of the haze, $\tau_o^h(\lambda)$ - optical thickness of the air layer, F_1, F_2, F_3 - energy streams from the object, Earth's surface and haze respectively, L - distance from the object, ε - limit of sensitivity of the visibility meter. The non-horizontal distance L can be found from the expression

$$K(L) = \varepsilon$$

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Non-Horizontal Visibility Below a Continuous Layer of Cloud

or

$$L = K^{-1}(\varepsilon).$$

The coefficient of diffusion is given by Eq.(1), the thickness of the air layer by Eq.(2) and the optical thickness by Eq.(3). The brightness of the air haze can be calculated from Eq.(4) (Ref 3) or Eq.(5) where $J(\tau_o', \Theta) = \sigma(\Theta)$. In the general case, this equation can be written in the form of Eq.(6). The conditions satisfying Eq.(6) are shown in Fig.1 and Table 1. The brightness of the cloud haze can be calculated from Eq.(7) where D is found experimentally (Ref 1). A mean D can be calculated from Eq.(8). Thus $J(\Theta)$ becomes simplified as is shown in Eq.(9). The integral of this equation can be evaluated and presented as Eq.(10) when correction for height of the Sun $i = 20$ to 80^o is applied. The spectral brightness of the Earth's surface can be calculated from Eq.(11) where $I_o(\lambda)$ - stream of parallel rays from the cloud. That part of the light which falls from a portion of cloud at an angle of $d\omega$ can be found from Eq.(12).

Substituting $J(\tau'_0, \Theta)$ from Eq.(4), the Eq.(13) is obtained, while the total illumination by the whole sky can be found from Eqs.(14), (15) and (16) where $\Phi(\lambda)$ is spectral illumination. The tables of Φ were made for the values of τ_0 ranging from 0.00 to 0.50 and for A from 0.0 to 1.8 (Table 2). As can be seen, the value of Φ can be considered as constant and equal to about 2. The calculation of the brightness of the Earth's surface can also be based on its own spectral illumination $E(\lambda)$. The ratio of $E(\lambda)/J(\lambda)$ can be found from Eq.(18), thus the brightness of the cloud can be expressed as Eq.(19) and the coefficient ε calculated from Eqs.(20)-(22). How the value of ε depends on λ can be shown in an example for $S_0 = 20$ km, $\tau_0 = 0.3$, $\Theta = 60^\circ$. Taking A = 0.2, the following computation can be performed:

$$(1 - A)\left(1 + \frac{3}{2}\cos\Theta\right) + 2A = 1.8,$$

$$\phi(\tau^0, A) = 0.9\left[4 + (3 - x_1)\, 0.7\,\tau_0\right] = 3.6 + 1.3\,\tau_0.$$

Non-Horizontal Visibility Below a Continuous Layer of Cloud

The result is shown in Table 3. It can be seen that the deformation of the spectral curve of brightness distribution, downwards from the cloud base of 1.53 km, does not exceed 12%. When the cloud base is relatively high (i.e. 2-4 km in the summer) a correction should be applied in Eq.(6). This can be found from Eqs.(23) and (24) where η and τ are found experimentally for the values of Θ equal 45 and 60° (Table 4). Similar tables can be made for various η and τ. Thus, knowing τ it will be easy to determine the decrease in illumination of an object and the Earth's surface or of the brightness of the haze, thus determining the contrast K.

There are 1 figure, 4 tables and 6 references, all of which are Soviet.

ASSOCIATION: Glavnaya geofizicheskaya observatoriya im.A.I.Voyeykova (Main Geophysical Observatory imeni A.I.Voyeykov)

SUBMITTED: September 23, 1957

21(8) SOV/43-59-13-13/16

AUTHOR: Minin, I.N.

TITLE: On the Solution of Instationary Problems of Radiation Transfer Theory

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1959, Nr 13(3), pp 137-141 (USSR)

ABSTRACT: Joining the papers of V.V.Sobolev [Ref 1,2,3] the author investigates instationary problems of the radiation transfer theory. The investigation is carried out with means of Laplace transformations and with statistical methods of V.V.Sobolev. The author obtains the radiation intensity on the boundary as well as in the medium itself. Partly the known solutions of the corresponding stationary problems are used. The author determines especially the probability of the quantum reflection at a semi-infinite medium in the time interval u to u+du.
There are 4 Soviet references.

SUBMITTED: February 22, 1958

Card 1/1

12

10(1),10(4)

AUTHOR: Mikheyev,A.S. SOV/43-59-13-14/16

TITLE: Equations of Gas Dynamics in the Case of Axial Symmetry

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki, mekhaniki i astronomii, 1959, Nr 13(3), pp 142-144 (USSR)

ABSTRACT: The author establishes the motion equations of an axialsymmetric flow of an ideal, compressible fluid. It is assumed that the density is known as an arbitrary function of pressure and flow function. If the velocity depends on the pressure only, then we have a laminar motion. If $v = v_1(p) \cdot F(\psi)$, where p is the pressure and ψ is the flow function, then the investigation can be reduced to the consideration of a potential flow with the velocity $v_1(p)$ and the flow function $\psi_1 = \int F(\psi) d\psi$.

The author mentions L.I.Sedov and Yu.V.Rudnev.
There are 3 references, 2 of which are Soviet, and 1 German.

SUBMITTED: August 15, 1958

Card 1/1

S/033/60/037/005/022/024
E032/E514

AUTHOR: Minin, I.N.

TITLE: On the Motion of a Variable Mass Envelope

PERIODICAL: Astronomicheskiy zhurnal, 1960, Vol.37, No.5, pp.939-940

TEXT: In 1958 Mustel' (Ref.1) considered the motion of an envelope in an inter-stellar medium of density ρ_c assuming that the mass of the envelope continuously increases at the expense of the inter-stellar medium and also as a result of the outflow of matter from the star. The formula which he used for the amount of matter flowing out of the star was $4\pi R_o^2\rho_o v_o$, where R_o is the radius of the layer from which the outflow takes place, ρ_o is its density and v_o the outflow velocity. The problem was formulated in detail in an earlier paper due to Mustel' (Ref.2). He obtained the following equation of motion for an envelope:

$$\frac{d^2R_a}{dt^2} = \frac{4\pi R_o^2\rho_o(v_o - v_a)^2 - 4\pi R_a^2\rho_c v_a^2}{m_o + 4\pi R_o^2\rho_o(v_o t - R_a + R_{a_o}) + \frac{4}{3}\pi\rho_c(R_a^3 - R_{a_o}^3)} \qquad (1)$$

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S/033/60/037/005/022/024
E032/E514

where R_a is the radius of the envelope at the time t, v_a is the expansion velocity of the envelope, R_{a_o} is the radius of the envelope at $t = 0$ and m_o is the initial mass of the envelope. In another paper (Ref.3) Mustel' reported numerical solutions of Eq.(1) obtained with the aid of the electronic computer "Strela". The solutions were obtained subject to the conditions $t = 0, R_a = R_{a_o}$, $v = v_o$, $m = 4/3 \pi R_{a_o}^3 \rho_c$. In 1954 the present author also discussed this problem and obtained an equation of motion for the envelope which was of the form

$$\frac{d}{dt}(mv) = aV(V - v) \tag{2}$$

where

$$m = m_o + \frac{4}{3}\pi r^3 \rho + a\int_0^t (V - v)\, dt \tag{3}$$

In these two equations r and v are the radius and the expansion

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E032/E514

On the Motion of a Variable Mass Envelope

velocity at a time t, aV is the amount of matter flowing out of the the star, V is the outflow velocity, ρ is the density of the inter-stellar medium and m and m_o are the masses of the envelope at a time t and at $t = 0$ respectively. The initial conditions employed were: $t = 0$, $r = 0$, $v = 0$, $m = m_o$ and a solution of the problem was obtained in a closed form. Bearing in mind that $v = dr/dt$, Eq.(2) can be re-written in the form

$$m \frac{d^2r}{dt^2} = aV (V - v) - v \frac{dm}{dt} \tag{4}$$

and hence using Eq.(3) one finds that

$$\frac{dm}{dt} = 4\pi r^2 \rho v + a(V - v) \tag{5}$$

Since subject to the above initial conditions

$$\int_0^t (V - v)\, dt = Vt - r \tag{6}$$

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On the Motion of a Variable Mass Envelope

it follows that substituting Eqs.(3), (5) and (6) into Eq.(4) the final result is

$$\frac{d^2r}{dt^2} = \frac{a(V - v)^2 - 4\pi r^2 \rho v^2}{m_0 + a(Vt - r) + \frac{4}{3}\pi\rho r^3} \qquad (7)$$

Allowing for changes in the notation it is seen that Eq.(7) is identical with Eq.(1). Since the present author obtained a closed solution of the problem, it follows that the numerical procedure employed by Mustel' is unnecessary and an algebraic solution can be obtained. There are 4 Soviet references.

SUBMITTED: April 25, 1960

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MININ, I.N.

Plenum of the Committee on the Physics of Stars and Nebulae.
Vop.kosm. 7:373-375 '60. (MIRA 13:11)
(Astrophysics--Congresses) (Nebulae--Congresses)

S/020/60/133/01/20/070
B014/B011

AUTHOR: Minin, I. N.

TITLE: A Point Source of Light in an Absorbing Medium Between Parallel Planes

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 1, pp. 74-76

TEXT: The present paper offers a generalization of V. V. Sobolev's study of a point light source placed between parallel isotropically reflecting planes. The method suggested by the said author is applied for the purpose. The system of integral equations obtained is solved by introducing relation (3) for the illuminated planes, instead of formula (2), whereby an Abel integral equation is obtained for (2). Proceeding therefrom the author obtains the exact analytical solution (12) of the problem considered. Finally, the calculation according to formula (12) is discussed. There is 1 Soviet reference.

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A Point Source of Light in an Absorbing Medium Between Parallel Planes

S/020/60/133/01/20/070
B014/B011

PRESENTED: March 14, 1960, by V. A. Ambartsumyan, Academician

SUBMITTED: March 11, 1960

√B

Card 2/2

Minin, I. N.

S/020/60/133/03/04/013
B019/B056

AUTHOR: Minin, I. N.

TITLE: The Solution of the Integral Equation of the Coastal Refraction of Electromagnetic Waves 12

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 3, pp. 558 - 560

TEXT: Reference is made in the introduction to a solution by V. A. Fok of the integral equation (1), which occurs in the theory of coastal refraction. Next, the solution (3) of the integral equation (2) is given, which was obtained by a new method developed by V. V. Sobolev (Ref. 3) by a generalization of the work of V. A. Ambartsumyan (Ref. 4). By means of Sobolev's method it is possible to show that the solutions of all equations (2) may be represented by means of a function $\Phi(\tau)$. The determination of this function $\Phi(\tau)$ is dealt with in detail. The application of this method to equation (1) is then discussed. For $\Phi(\tau)$, the author obtains the equations (13) and (14) respectively for different ranges of the parameter α. In conclusion, two special cases are

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The Solution of the Integral Equation of the Coastal Refraction of Electromagnetic Waves

S/020/60/133/03/04/013
B019/B056

investigated where the function $g(\tau)$ describing the wave incident on the coast corresponds to the form $g(\tau,x) = e^{-\tau x}$ and the integral (18), respectively. The latter case represents waves which are superpositions of plane waves. There are 5 Soviet references.

PRESENTED: May 3, 1960, by V. A. Ambartsumyan, Academician

SUBMITTED: April 28, 1960

Card 2/2

20768
S/043/61/000/001/010/010
C111/C222

24.3200

AUTHOR: Minin, I.N.

TITLE: Diffusion of radiation in a semi-infinite medium with a non-isotropic scattering.I.

PERIODICAL: Leningrad. Universitet. Vestnik. Seriya matematiki,mekhaniki i astronomii, no.1, 1961, 133-143

TEXT: The author considers the diffusion of the radiation in a semi-infinite medium with a non-spherical indicatrix of scattering with the aid of probability theoretical methods.
Let $p(\tau, \eta', \eta, \varphi'-\varphi)d\omega$ be the probability that a photon absorbed in the optical depth τ from a direction forming the angle arc cos η' with the outer normal of the layers having the azimuth φ' leaves the medium through $\tau = 0$ under the angle arc cos η to the normal and with the azimuth φ (in the solid angle $d\omega$). Let $q(\tau, \eta', \eta, \varphi'-\varphi)d\omega$ be the probability that a photon emitted in the optical depth τ in a direction forming the angle arc cos η' with the outer normal and having the azimuth φ' leaves the medium under the angle arc cos η with the azimuth φ. Several connections between p and q are given, e.g.

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$$q(\tau, \eta', \eta, \varphi'-\varphi) = -\int_{\tau}^{\infty} e^{-\frac{\tau-\tau'}{\eta'}} p(\tau', \eta', \eta, \varphi'-\varphi) \frac{d\tau'}{\eta'} \quad (\eta'<0). \tag{5}$$

By elimination of q from this connections one obtains for p

$$p(\tau, \eta', \eta, \varphi'-\varphi) = \frac{\lambda}{4\pi}\int_0^{2\pi} d\varphi'' \left[\int_0^1 x(\gamma)\,d\eta'' \int_0^{\tau} p(\tau', \eta'', \eta, \varphi''-\varphi)\, e^{-\frac{\tau-\tau'}{\eta''}} \frac{d\tau'}{\eta''} - \right.$$

$$\left. - \int_{-1}^{0} x(\gamma)\,d\eta'' \int_{\tau}^{\infty} p(\tau', \eta'', \eta, \varphi''-\varphi)\, e^{-\frac{\tau-\tau'}{\eta''}} \frac{d\tau'}{\eta''}\right] + \frac{\lambda}{4\pi} x(\gamma_1)\, e^{-\frac{\tau}{\eta}}, \tag{7}$$

where

$$\cos\gamma_1 = \eta\eta' + \sqrt{(1-\eta^2)(1-\eta'^2)}\cos(\varphi'-\varphi). \tag{8}$$

and $x(\gamma)$ is the indicatrix of scattering. Besides p satisfies the relation

$$\frac{\partial p(\tau, \eta', \eta, \varphi'-\varphi)}{\partial\tau} = -\frac{1}{\eta} p(\tau, \eta', \eta, \varphi'-\varphi) +$$

$$+ \int_0^1\int_0^{2\pi} p(\tau, \eta', \eta'', \varphi'-\varphi'')\cdot p(0, \eta'', \eta, \varphi''-\varphi) \frac{d\eta''}{\eta''}\, d\varphi''. \tag{12}$$

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C111/C222

Diffusion of radiation...

where (following from (7) for $\tau = 0$)

$$p(0, \eta', \eta, \varphi'-\varphi) = \frac{\lambda}{4\pi}\left[x(\gamma_1) + \frac{\eta}{\pi}\int_0^{2\pi} d\varphi'' \int_0^1 x(\gamma)\,\rho(\eta'', \eta, \varphi''-\varphi)\frac{d\eta''}{\eta''}\,d\varphi'',\right. \quad (13)$$

$\rho(\eta', \eta, \varphi'-\varphi)$ is the reflection coefficient of the medium. Then the intensity of radiation emerging from a medium illuminated by parallel rays is calculated. If arc cos ζ is the angle formed by the incident parallel rays with the normal of the boundary of the medium, and if φ_0 is the azimuth of the rays, while $I(0, \eta, \zeta, \varphi-\varphi_0)$ is the intensity of the radiation which leaves the medium under the angle arc cos η to the normal and with the azimuth φ, then

$$I(0, \eta, \zeta, \varphi-\varphi_0) = \pi S \cdot \int_0^{\infty} e^{-\frac{\tau}{\zeta}}\, p(\tau, -\zeta, \eta, \varphi_0-\varphi)\frac{d\tau}{\eta}. \quad (16)$$

(πS is the flow of the radiation through a unit surface lying perpendicular to the rays on $\tau = 0$). With the aid of (16) it is stated:

$$\rho(\eta, \zeta, \varphi-\varphi_0) = \rho(\zeta, \eta, \varphi_0-\varphi). \quad (20)$$

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Diffusion of radiation...

Particularly the author considers the case where the indicatrix of scattering has the form

$$x(\gamma) = \sum_{i=0}^{n} x_i P_i(\cos \gamma), \qquad (21)$$

where the P_i are Legendre polynomials. The obtained results agree with the older results of V.A.Ambartsumyan (Ref.4: ZhETF, 13, no.9,10, 1943). Finally the intensity of the emitted radiation is considered for the case that there exist several radiation sources. The considered individual cases were already investigated by V.V.Sobolev, Ambartsumyan and others.

There are 6 Soviet-bloc and 1 non-Soviet-bloc references. The reference to the English-language publication reads as follows: S.Ueno. J.math. a.mech., 7, no.4, 1958.

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MININ, I.N.

Optical characteristics of diffuse nebulae. Astron.zhur. 38 no.4:641-646 Jl-Ag '61. (MIRA 14:8)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova.
(Nebulae)

SOBOLEV, V.V.; MININ, I.N.

Isotropic light scattering in an atmosphere with finite optical thickness. Astron.zhur. 38 no.6:1025-1032 N-D '61. (MIRA 14:11)

1. Astronomicheskaya observatoriya Leningradskogo gosudarstvennogo universiteta im. A.A.Zhdanova.
(Light--Scattering)

MENIN, I.N.

S/560/62/000/014/001a/011

AUTHOR: Sobolev, V. V., and I. N. Minin

TITLE: Light scattering in a spherical atmosphere. I.

PERIODICAL: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli, no. 14, 1962, 7-12

TEXT: Light scattering in an atmosphere consisting of spherical layers (e.g., when the sun is low on the horizon or beneath it) is examined. An approximate solution of equations for the intensity of radiation (I) and the total quantity of radiation (B) is proposed on the basis of a method used by V. V. Sobolev to solve the problem of light scattering in a medium consisting of plane-parallel layers. First order scattering is accounted for precisely, while scattering of higher orders is approximated. Here only the first two components are used in the expansion of the scattering indicatrix in Legendre polynomials. The equations obtained are valid for all relationships of the coefficient of absorption (α) to the distance (r) of an arbitrary point in the atmosphere from the center of the planet.

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Two special cases are considered: 1) where α is constant in the atmosphere and 2) where α decreases exponentially with height. Case (1) may be presumed to exist when the sky is totally overcast and case (2), when it is clear. The computations could be simplified if it were assumed that the thickness of the atmosphere is considerably less than the radius of the planet, as is actually the case. Light scattering in the Venusian atmosphere is recognized as a special case. Here the atmosphere consists of two layers: a cloudy layer with an approximately constant α and an underlying gaseous layer with varying α.

MININ, I.N.

Theory of unsteady diffusion of radiation. Vest. LGU 17 no.19:124-132 '62. (MIRA 15:10)

(Radiation) (Diffusion)

L 10339-63 EWT(1)/FCC(w)/BDS/ES(v)... AFFTC/ESD-3 Pe-4 GW

PHASE I BOOK EXPLOITATION SOV/6434

60

Gorbatskiy, V. G., and I. N. Minin

Nestatsionarnyye zvezdy (Unstable Stars) Moscow, Fizmatgiz, 1963. 355 p. (Series: Problemy teoreticheskoy astrofiziki) 2000 copies printed.

Editorial Board of the Series: V. A. Ambartsumyan, E. R. Mustel', A. B. Severnyy, and V. V. Sobolev; Ed.: G. S. Kulikov; Tech. Ed.: I. Sh. Aksel'rod.

PURPOSE: This book is intended for astronomers and astrophysicists.

COVERAGE: Unstable stars, including novae, supernovae, Wolf-Rayet, and Be-types, are investigated on the basis of their emission characteristics. Shell dynamics during flareup are examined. The instability of the stars is interpreted chiefly on the basis of the structure of the outer layers, since little data is available on the interior of such stars. Some attention is given to the application of gasdynamics and electrodynamic techniques

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to the study of unstable stars. Cepheid variables are not examined. Chs. 1, 3, 7, 9, 10, and para. 19 were written by V. G. Gorbatskiy and Chs. 2, 4, 5, 6, and 7, by I. N. Minin. The authors thank colleagues at the Department of Astrophysics of Leningrad University and the Department of Stellar Physics of the Crimean Astrophysical Observatory. There are 293 references, including 132 Soviet.

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ACCESSION NR: AP4003731 S/0293/63/001/002/0227/0234

AUTHOR: Minin, I. N.; Sobolev, V. V.

TITLE: Light scattering in a spherical atmosphere.

SOURCE: Kosmicheskiye issledovaniya, v. 1, no. 2, 1963, 227-234

TOPIC TAGS: atmospheric light scattering, spherical atmosphere, planetary atmosphere, atmospheric layer curvature, light scattering, light reflection, outgoing radiation, atmospheric absorption, atmospheric optical thickness, planet reflected light, homogeneous sphere luminescence.

ABSTRACT: The article is a continuation of the authors' previous work on the scattering of light in a planetary atmosphere which accounts for the curvature of atmospheric layers (V. V. Sobolev, I. N. Minin. Sb. "Iskusstvennyye Sputniki Zemli," vy* p. 14. Izd-vo AN SSSR, 1962, str. 7). In the present article, the case of a constant atmospheric absorption coefficient is considered. An analytical solution is obtained for the basic equation determining the mean intensity of the diffused radiation, J, at a point in the atmosphere, subject to boundary conditions. These conditions assume that there exists no diffused radiation incident upon the atmosphere from

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ACCESSION NR: AP4003731

the outside, and they account for the reflection of light from the planet's surface. The expression for the quantity J of a homogeneous sphere is derived for the optical thickness of the atmosphere, which is large in comparison to the planet dimensions. The result is similar to, but simpler than that obtained by R. G. Giovanelli and J. T. Jefferies (Proc. Phys. Soc., 69, No. 11, 1077, 1956). From the knowledge of J, the ratio B of the radiation coefficient to the absorption coefficient can be derived for any point. The intensity of radiation leaving the atmosphere is then expressed as:

$$I = \int_0^{T_0} B e^{-T_1} dT_1 + I^* e^{-T_0},$$

where T_1 is the range along a ray of light between a point in the atmosphere and the observer, T_0 is the total path traveled by the ray in the atmosphere, and I^* is the intensity of radiation due to reflection from the planet's surface. The integral of the equation is written as $I_1 + \Delta I$, where I_1 is the intensity due to first order scattering and ΔI represents higher

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orders. For the case when the atmosphere can be approximated by a homogeneous sphere and the observer is at a far field, the coordinates of any point are easily expressed in terms of T_1, and an explicit expression for I_1 is found. This expression is further simplified by assuming an atmosphere with large radius. The resulting expressions for I_1 closely approximate the total intensity of scattered light for small values of λ, the albedo of the scattering particle, or for small values of γ, the angle between the direction of light incident on the planet and the ray directed toward the observer. It is further pointed out that entirely different expressions are found for I_1 when the atmosphere is assumed to consist of plane and parallel layers. Orig. art. has: 43 formulas and 3 figures.

ASSOCIATION: None

SUBMITTED: 20Feb63 DATE ACQ: 26Dec63 ENCL: 00

SUB CODE: AS NO REF SOV: 001 OTHER: 001

MININ, I.N.

Diffusion of radiation in a semi-infinite medium with nonisotropic scattering. Part 2. Vest. LGU 18 no.13:106-118 '63. (MIRA 16:9)

(Radiation) (Scattering (Physics))

L 11192-63 EWT(1)/FCC(w)/BDS/ES(v)--AFFTC/ASD/ESD-3/APGC/SSD--
Pe-4/Pi-4--GW

ACCESSION NR: AP3001243 S/0033/63/040/003/0496/0503

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AUTHOR: Minin, I.N.; Sobolev, V.V.

TITLE: Contribution to the theory of the scattering of light 12 in planetary 12 atmospheres

SOURCE: Astronomicheskiy zhurnal, v. 40, no. 3, 1963, 496-503

TOPIC TAGS: planetary atmosphere, scattering of light, luminosity of planetary atmosphere, twilight phenomena, terminator

ABSTRACT: This theoretical paper examines the problem of the scattering of light in a spherical atmosphere, continuing and extending the investigation reported in the authors' paper in "Iskusstvennyye sputniki Zemli (Artificial Earth satellites)", no. 14, Izd-vo AN SSSR, Moscow, 1962, in which the problem is approximately reduced to a certain differential equation. In the present paper the problem is reduced to an integral equation. The solution of this problem is essential for the study of the luminosity of a planet in the vicinity of the terminator, i.e., that region of the planet in which the altitude of the sun over the horizon is low, also for the construction of a theory of twilight phenomena. The integral equation for the source function is developed on the premise of

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ACCESSION NR: AP3001243

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isotropic scattering of the light. For the sake of simplicity, the planetary atmosphere is imagined to consist of plane-parallel layers. However, it is assumed that these layers, in a given locality, are illuminated by the solar rays as though they were part of a spherical atmosphere. The reflection of the light from the planetary surface is taken into account. If it is assumed that the atmospheric layers are illuminated by parallel solar rays at each point, then the equation obtained thereby yields the well-known equation of the theory of the scattering of radiation in a planetary atmosphere. The integral equations obtained in the present paper will subsequently be numerically solved for various cases. In particular, the authors intend to examine in detail the case of a gaseous atmosphere in which the absorption coefficient decreases exponentially with elevation, also the case of a two-layer atmosphere consisting of a lower cloud-filled layer and an upper gaseous layer. The results of the calculation will be applied to the study of the luminosity of the atmospheres of the Earth and other planets when the sun is at a low local altitude. Here the first-order scattering will be taken into account exactly, the higher-order scattering approximately. It is further intended to generalize the results of this study. There are 46 numbered equations and 2 figures.

ASSOCIATION: Astronomicheskaya observatoriya Leningradskogo gos. universiteta

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L 10339-63 EWT(1)/FCC(w)/BDS/ES(v)--AFFTC/ESD-3 Pe-4 GW

PHASE I BOOK EXPLOITATION SOV/6434

62
60

Gorbatskiy, V. G., and I. N. Minin

Nestatsionarnyye zvezdy (Unstable Stars) Moscow, Fizmatgiz, 1963. 355 p. (Series: Problemy teoreticheskoy astrofiziki) 2000 copies printed.

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to the study of unstable stars. Cepheid variables are not examined. Chs. 1, 3, 7, 9, 10, and para. 19 were written by V. G. Gorbatskiy and Chs. 2, 4, 5, 6, and 7, by I. N. Minin. The authors thank colleagues at the Department of Astrophysics of Leningrad University and the Department of Stellar Physics of the Crimean Astrophysical Observatory. There are 293 references, including 132 Soviet.

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MININ, I. N.; SOBOLEV, V. V.

"Light scattering in the spherical atmosphere."

paper presented at the Atmospheric Radiation Symp, Leningrad, 5-12 Aug 64.

MININ, I.N.; PILIPOSYAN, A.G.; SHIDLOVSKAYA, N.A.

Tables of Ambartsumian's functions for anisotropic scattering. Uch. Zap. LGU no.323:12-36 '64. (MIRA 17:12)

ACCESSION NR: AP4043498 S/0293/64/002/004/0610/0618

AUTHOR: Minin, I. N., Sobolev, V. V.

TITLE: Light scattering in a spherical atmosphere. Part III

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 4, 1964, 610-618

TOPIC TAGS: planetary atmosphere, light scattering, atmospheric optics, atmospheric absorption coefficient, planet brightness, planetary albedo

ABSTRACT: In this article, as in the previous parts of their study (Iskusstvenny*ye sputniki Zemli, No. 14, Izd-vo AN SSSR, 1962, p. 7; Kosmicheskiye issledovaniya, 1, No. 2, 227, 1963), the authors consider the problem of diffusion of radiation in a planetary atmosphere illuminated by the sun's rays. The curvature of atmospheric layers is taken into account. In the earlier studies the principal equations of the problem were derived and a solution was found for a case when the absorption coefficient for the atmosphere is constant. In this third part of the study the assumption is made that the absorption coefficient decreases exponentially with height. The problem is solved in the first approximation and the following computations were made: 1. brightness of the planet near the terminator, and 2. brightness of the zenith during observations from the

ACCESSION NR: AP4043498

earth's surface for different zenith distances of the sun. Table 2 in the original gives the brightness of a planet near the terminator. Table 3 gives the values I_o and Δ I (where I_o is the intensity caused by first-order scattering in the case of a spherical indicatrix of scattering and Δ I is the intensity caused by scattering of higher orders) as a function of solar zenith distance ψ for different values of the optical thickness τ_o of the atmosphere. The value ΔI is given for two values of the albedo of a planetary surface (A = 0.2 and A = 0.8), approximately corresponding to summer and winter conditions. These data show that the relative role of higher-order scattering changes little with a change in solar zenith distance. Table 4 gives the values of the total brightness of the zenith. A comparison of computed and observed values of zenith brightness shows good agreement. The presented theory of light scattering in a spherical atmosphere is rather approximate, but it can be made more precise by taking into account a term neglected in one of the formulas or by using an integral equation describing diffusion of radiation in a spherical atmosphere derived earlier by the authors (Astron. zh., 40, No. 3, 496, 1963). The radiation transport equation used does not take into account the refraction of radiation. However, refraction apparently must be taken into account only in a study of first-order scattering for angles ψ close to $\pi/2$. In a study of higher-order scattering refraction probably can be

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ACCESSION NR: AP4043498

neglected, as it is neglected in the ordinary theory of light scattering in planetary atmospheres. "The authors wish to thank Ye. B. Babkova and L. P. Savitskaya for computations involved in this study. Orig. art. has 48 formulas and 4 tables.

ASSOCIATION: none

SUBMITTED: 31Jan64 ENCL: 00

SUB CODE: AA, OP NO REF SOV: 007 OTHER: 001

Card 3/3

MININ, I.N.

Light scattering in dust nebulae. Astron. zhur. 41 no.4: 662-668 Jl -Ag '64 (MIRA 17:8)

1. Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova.

L 27899-65 EWT(l) IJP(c)
ACCESSION NR: AP4016502 S/0020/64/154/005/1059/1062 13

AUTHOR: Minin, I.N. 12

TITLE: On the unsteady luminosity of a semi-infinite medium B

SOURCE: AN SSSR. Doklady*, v. 154, no. 5, 1964, 1059-1062

TOPIC TAGS: luminosity, semiinfinite medium, light scattering, 21 isotropic scattering, quantum, quantum survival, radiation intensity, unsteady diffusion, light reflection, Laplacian transformation, light quantum, optical depth

ABSTRACT: The unsteady luminosity of a homogeneous semi-infinite medium in which the isotropic scattering of light provides for the probable "survival" of the quantum has been studied. A method is proposed for solving various problems pertaining to the theory of unsteady diffusion of radiation which is based on the assumption that the optical properties of the medium do not change in the course of time. The method involves finding the Laplacian transformation in any point of the radiation field from a corresponding

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L 27899-65

ACCESSION NR: AP4016502

point in a steady-state case. In two cases under consideration, one included diffused reflection of light in a semi-infinite medium illuminated by parallel beams, and the other a medium illuminated by evenly distributed sources. The solution to the problem in a steady-state case as made by V.A. Ambartsumyan was as follows:

$$I(\eta) = B_0 \frac{\varphi(\eta)}{\sqrt{1-\lambda}}, \qquad (22)$$

where $B_0 dt$ represents the quantity of energy emitted by the sources located in an elementary volume with a cross section of 1 cm^2 and optical depth of dt per 1 sec.; $I(\eta)$ is the intensity of radiation emerging from the medium and comprising an angle arc cosη with the normal (line) toward the boundary. Orig. art. has: 32 formulas.

ASSOCIATION: Leningradskiy gosudarstvenny*y universitet imeni A.A. Zhdanova (Leningrad State University)

SUBMITTED: 12Oct63 ENCL: 00

SUB CODE: OP, NP NO REF SOV: 004 OTHER: 001

Card 2/2

MININ, I.N.

Some calculations of light scattering in dust nebulae. Trudy Astrofiz. inst. AN Kazakh. SSR 5:258-261 '65.

(MIRA 18:6)

L 5431-66 EWT(1)/FCC GW

ACC NR: AT5026206 SOURCE CODE: UR/2703/65/000/328/0039/0043

54
52
B+1

AUTHOR: Minin, I. N. 44,55

ORG: Astronomical Observatory, Leningrad State University 44,55 (Astronomicheskaya observatoriya, Leningradskiy gosudarstvennyy universitet)

TITLE: On the scattering of light 12,44,55 in planetary atmospheres

SOURCE: Leningrad. Universitet. Uchenyye zapiski, no. 328, 1965. Seriya matematicheskikh nauk, no. 39. Trudy Astronomicheskoy observatorii, v. 22, 39-43

TOPIC TAGS: light scattering, Rayleigh scattering, planetary atmosphere, aerosol, light reflection, light polarization, astrophysics

ABSTRACT: The scattering of light off a plane layer with finite optical thickness τ_0 is considered. The layer is bounded below by a reflecting floor and is illuminated with parallel rays incident at a given angle to the normal. The scattering of this light is calculated as arising from molecules (Rayleigh scattering) and from atmospheric aerosols. The motivation for this calculation

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L 5431-66

ACC NR: AT5026206

2

proceeds from investigation of optical properties of planetary atmospheres, particularly those of earth and Mars. In this work, account is taken of the light polarization in reflection off the atmospheric floor and scattering by the aerosols. Approximate formulas describing the radiation emerging from the planetary atmosphere are obtained. Orig. art. has: 18 formulas.

SUB CODE: AA, ES, OP/ SUBM DATE: 00/ ORIG REF: 003/ OTH REF: 002

Card 2/2

MININ, I.N.

Light scattering in a one-dimensional nonsteady-state medium. Astrofizika 1 no.2:173-181 Je '65. (MIRA 18:10)

1. Leningradskiy gosudarstvennyy universitet.

MININ, I.S.; MORKV, N.S.

Machine for cold bending 3 to 6-inch pipes. Rats. i izobr. predl. v stroi. no.72:12-13 '54. (MIRA 10:9)
(Pipe bending)

SHTERN, I.A.; KIPNIS, Yu.B.; PLOTNIKOV, I.V.; PAVLOV, S.A.; PAVLOV, N.N.; VTOROV, G.N.; PROKURAT, R.E.; GLAGOLEVA, K.I.; KOCHERZHINSKAYA, Ye.L.; FEDOROVA, L.V.; MININ, I.T.

Artificial carbocylate leather. Kozh.-obuv. prom. 6 no.2:32-34 F'64. (MIRA 17:5)

MININ, K.

School principal is elected by a collective. Sov.profsoiuzy 18 no.22:19-20 N '62. (MIRA 15:12)
(School superintendents and principlas)

S/120/62/000/002/011/047
E039/E520

21,6000

AUTHORS: Sidorenko, V.V., Ivanov, V.P. and Minin, K.F.

TITLE: A gamma-dosimeter with a gas multiplication counter and a pulsed supply system

PERIODICAL: Pribory i tekhnika eksperimenta, no.2, 1962, 55-58

TEXT: This instrument fills the need for a single detector to cover a wide range of dose rates (0.05 to 1000 r/hr). The probe unit contains a gas multiplication counter СИ-3БГ (SI-3BG) and blocking generator 6П15П (6P15P) in an aluminium cylinder (65 mm diameter and 260 mm high; weight 620 g). The control unit, dimensions 180 x 145 x 205 mm^3, weighs 3 kg and uses a СБ-1М/100 (SB-1M/100) electromechanical counter. A calibration obtained for dose rates up to 1200 r/hr with a Co^{60} source showed that the indicated dose agreed with the calculated value to ±5%. The sensitivity is not less than 0.05 r/hr. For changes of ±10% in the supply voltage the readings change by not more than ±4%. There is practically no background count-rate. For temperature changes of +50 to -40°C the readings change by not more than ±5%. The probe can be used at distances of up to 50 m from the control

1/B

Card 1/2

A gamma-dosimeter with a gas ... S/120/62/000/002/011/047
E039/E520

unit. A detailed description of the circuit is given. There are 5 figures.

SUBMITTED: August 4, 1961

VB

Card 2/2

IVANOV, V.P.; MININ, K.F.; KUZIN, A.M.

Wide-range roentgenometer. Prib. i tekh. eksp. 8 no.5:65-69 S-O '63. (MIRA 16:12)

67187

24.7500

SOV/58-59-7-15482

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 7, p 123 (USSR)

AUTHORS: Minin, L.P., Terminasov, Yu.S.

TITLE: X-Ray Diffraction Study of Aluminum Deformed by Stretching at Room Temperature and Low Temperature

PERIODICAL: Uch. zap. Leningr. gos. ped. in-ta im. A.I. Gertsena, 1958, Vol 141, pp 225 - 232

ABSTRACT: The authors studied the substructure of Al that had been deformed by stretching at temperatures ranging from 20° to -194°C. A special attachment made it possible to effect the deformation of the sample and obtain X-ray photographs both at room temperature and at low temperature (-194°C). The X-ray photography was effected by the reverse exposure method. It was established that there exists an interconnection between lattice distortions and the process of crushing of the blocks that takes place under plastic deformation. The increase of stresses in the initial stage of deformation paves the way for the process of crushing. The crushing of the blocks, as well as a certain disorientation that they

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SOV/58-59-7-15482

X-Ray Diffraction Study of Aluminum Deformed by Stretching at Room Temperature and Low Temperature

undergo, in turn promotes a further increase of distortions. It is probably the elastic stresses resulting from cooling that pave the way for the intensive crushing of the blocks that takes place when Al is deformed at low temperatures. 4

Card 2/2

NIKITIN, S.P., prof.; MININ, L.S., st. prepod., red.

[Laboratory manual on the strength of materials] Laboratornyi praktikum po soprotivleniiu materialov. 3. izd. Moskva, Mosk. energet. inst. 1964. 115 p. (MIRA 18:12)

YERDAKOV, Vadim Ivanovich, inzh.; MININ, Leonid Sergeyevich, inzh.; TIKHOMIROV, Ye.N., prof., retsenzent; DARKOV, A.V., doktor tekhn. nauk, retsenzent; SAPOZHKOV, N.M., inzh., nauchnyy red.; KOPTEVSKIY, D.Ya., red. izd-va; YEZHOVA, L.L., tekhn. red.

[Laboratory practical work on the strength of materials] Laboratornyi praktikum po soprotivleniiu materialov dlia studentov zaochnykh vtuzov. Moskva, Gos. izd-vo "Vysshaia shkola," 1961. 188 p. (MIRA 15:4)
(Strength of materials--Testing) (Testing machines)

MININ, L.S., starshiy prepodavatel'

Dynamic strength of end-type electrical machines with printed circuits. Trudy MEI no.38:291-304 '62. (MIRA 17:2)

ITSKOVICH, G.M.; VINOKUROV, A.I.; Prinimal uchastiye:
MININ, L.S.; MAKUSHIN, V.M., laureat Leninskoy premii,
prof., retsenzent; SHPIRO, G.S., kand. tekhn.nauk, nauchn.
red.; BORODINA, N.N., red.; CHIZHEVSKIY, E.M., tekhn.red.

[Manual for solving problems on the strength of materials]
Rukovodstvo k resheniiu zadach po soprotivleniiu materialov.
Moskva, Rosvuzizdat, 1963. 351 p. (MIRA 16:8)
(Strength of materials—Problems, exercises, etc.)

MAKLAKOV, I.A.; MININA, L.S.

Height of the tropopause over Moscow in the period from 1957 to 1960. Trudy TSIP no.137:21-26 '64.

Fluctuations of tropopause altitude in connection with the temperature variations in the troposphere and lower stratosphere. Ibid.:37-43 (MIRA 17:9)

MININA, L.S.; BATYAYEVA, T.F.

Structure of the atmosphere following the invasion of tropical air over Europe. Trudy TSIP no.137:44-53 '64.

(MIRA 17:9)

BATYAYEVA, T.F.; MININA, L.S.

Weather and the circulation of the atmosphere in the winter of 1962-1963. Trudy TSIP no.137:151-159 '64. (MIRA 17:9)

MININ, M.I.

"On the Road to Raising State Farm Production."

USSR Home Service. 12 April 1955.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134420005-1"

MININ, Mikhail Kuz'mich; SORKIN, S., red.; PAVLOVA, S., tekhn.red.

[New wage system at the "Shugarovo" State Farm] Novoe v oplate truda v sovkhoze "Shugarovo." Moskva, Mosk.rabochii, 1960. 47 p. (MIRA 13:5)

1. Direktor sovkhoza "Shugarovo", Moskovskoy oblasti (for Minin).
(State farms) (Wages)

KAGAN, Iosif Zakharovich; MININ, M.N., red.; GARMASH, L.M., otv.za vypusk; SUKHAREVA, R.A., tekhn.red.

[Introduction of electric slag welding; "Penzkhimmash" Plant of the Penza Economic Council] Opyt vnedreniia elektroshlakovoi svarki; zavod "Penzkhimmash" Penzenskogo sovnarkhoza. Moskva, 1958. 16 p. (Moskovskii dom nauchno-tekhnicheskoi propagandy. Peredovoi opyt proizvodstva. Seriia: Tekhnologiia mashinostroeniia, no.30. Svarka, paika i metallizatsiia).

(MIRA 13:10)

(Penza Province--Electric welding)

MININ, M.S., inzh.

Experience in producing gas turbine blades at the "Economizer" plant. Energomashinostroenie 4 no.12:41,48 D '58.
(MIRA 11:12)

(Gas turbines)

AUTHOR: Minin, M.S., Engineer SOV/117-58-11-16/36

TITLE: The Manufacture of Gas Turbine Blades (Izgotovleniye gazoturbinnykh lopatok)

PERIODICAL: Mashinostroitel', 1958, Nr 11, pp 19 - 20 (USSR)

ABSTRACT: The principal problem in the manufacture of gas turbine blades is the selection of basic surfaces from which the machining is to proceed. Steam turbine and compressor blades cannot be compared with gas turbine blades in this respect. The profile surface of gas turbine blades is very complex, and there are various methods for the selecting basic surfaces (Figure 1 and 2). The mechanical processing of these blades is done in 50-60 operations. The back edge of the blade is machined on a lathe by using a copy. The different operations are described. There are no special machines for the manufacture of gas turbine blades. There are 2 sets of diagrams.

1. Gas turbine blades--Production 2. Machine tools--Performance

Card 1/1

MININ, M.Ye.

Adoption of charging bunkers and their role in speeding up the mechanization of winning machine peat in White Russia. Sbor. nauch.trud.Bel.politekh.inst. no.65:83-89 '59. (MIRA 13:5)

(White Russia--Peat machinery)

NARYSHKIN, I.I.; MININ, N.A.

Polarography of melts over lithium and potassium chlorides using a lead dropping electrode. Zhur.prikl.khim. 34 no.10:2353-2356 0 '61. (MIRA 14:11)

(Salts) (Polarography) (Electrodes, Lead)

MININ, N. D.

Drifting by cutter-loader in the Moscow Basin. Mast. ugl. 3 no.12:7-8 D '54. (MIRA 8:6)

1. Brigadir prokhodchikov shakhty no. 67 "Zhdankovskaya" kombinata Tulaugol'.
(Moscow Basin--Coal mines and mining) (Coal mining machinery)

MININ, N. D.

We shall not stop with the achievements made. Mast.ugl.4 no.8:14 Ag '55. (MIRA 8:10)

1. Mashinist prokhodcheskogo kombayna shakhty no.67 kombinata Tulaugol'
(Tula Province--Coal miners)

MININ, Nikolay Dmitriyevich; POPKOV, Boris Ivanovich; KOLOMIYTSEV, A.D., otvetstvennyy redaktor; NADEINSKAYA, A.A., tekhnicheskiy redaktor

[Gamma ray relays for the automatization in the coal industry] Gamma-rele dlia avtomatizatsii v ugol'noi promyshlennosti. Moskva, Ugletekhizdat, 1956. 63 p. (MLRA 9:7)

(Gamma rays--Industrial application)
(Coal mining machinery)

MININ, N.F.

At the Moscow Exhibition of Fruit Culture. Zashch. rast. ot vred. i bol. 8 no.2:57 F '63. (MIRA 16:7)

1. Chlen byuro sektsii sadovodstva Vserossiyskogo obshchestva okhrany prirody.

(Moscow--Agricultural exhibitions)

MININ, N. I.

USSR / Pharmacology, Toxicology, Analgesics. V

Abs Jour : Ref Zhur - Biol., No 20, 1958, No 94189

Authors : Minin, N. I.; Starchenko, N. N.
Inst : Moscow Medical Institute
Title : Scophedal (Scopolamine - Eikodal - Ephetonin) as Basic Narcosis in the Surgical Clinic.

Orig Pub : Tr. 1-go Mosk. med. in-ta, 1957, 3, 119-124.

Abstract : Combined hypodermic anaesthetization (1 ml of scophedal (I), three minutes before the operation under local anaesthesia) was applied to 50 patients during different operations. From 10 - 20 minutes after the injection of I in the majority of patients this resulted in a state of general quiescence, a feeling of fatigue, indifferent attitude towards the surroundings, dizziness, dryness in the mouth, and a drowsy

Card 1/2

MININ, N.I.; STARCHENKO, N.N.

Intravenous use of scopolamine-morphine-caffeine mixture as the principal anesthetic. Trudy 1-go MMI 3:125-128 '57. (MIRA 14:5)

(ANESTHETICS)

MININ, N.I., dotsent; BABIN, V.B.; KOFMAN, I.L.; MANEVICH, V.A.; MIKHEL'SON, V.A.; YUREVICH, V.M.

Concentration of ether in the blood during various types of ether-oxygen anesthesia. Vest.khir. 85 no.9:95-100 S '60. (MIRA 13:11)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. I.S. Zhorov) sanitarno-gigiyenicheskogo fakul'teta 1-go Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.
(ETHER (ANESTHETIC))

MARUSENKO, Yakov, Il'ich; ZEMTSOV, Aleksey Anisimovich; SEMLYANSKAYA, Lidiya Pavlovna; PANKOV, Arkadiy Mikhaylovich; MININ, Nikolay Kondrat'yevich; MORDOVINA, L.G., tekhn. red.

[Hydrography of Western Siberia] Gidrografiia Zapadnoi Sibiri. Tomsk, Izd-vo Tomskogo univ. Vol.1. [General characteristics of waters] Obshchaia kharakteristika vod. 1961. 169 p. (MIRA 14:11)

(Siberia, Western—Hydrography)

MININ, N. P.

24288 MININ, N. P. K voprosu o vzaimosvyazyakh i glubokikh limfaticheskikh sosudov nizhney konechnosti. Trudy Leningr. San.-Gigien. med. in-ta, T. III, 1949, S. 134-40. - Bibliogr: 16 Nazv.

SO: Letopis, No. 32, 1949.

MININ, N.P.

MININ, N.P., assistent

Anatomy of syperficial lymph vessels of the lower extremity. Trudy LSGMI 9:158-163 '51. (MIRA 11:1)

1. Kafedra normal'noy anatomii Tomskogo meditsinskogo instituta im. V.M.Molotova (nacunyy rukovoditel' - chl-korr. AMN SSSR prof. Zhdanov D.A.)
(LYMPHATICS) (EXTREMITIES, LOWER)

MININA, Ol'ga Mikhaylovna; KRUG, Ye.K., kand. tekhn. nauk, otv. red.; LETNEV, B.Ya., red.izd-va; LAUT, V.G., tekhn.red.

[Determination of the dynamic characteristics and parameters of standard control objects] Opredelenie dinamicheskikh kharakteristik i parametrov tipovykh reguliruemykh ob"ektov. Moskva, Izd-vo AN SSSR, 1963. 44 p. (MIRA 16:10)
(Automatic control)

MININ, P. I.

Research in the drawing of steel bars. Moskva, Gos. nauch.-tekhn. izd-vo mashinostroit. lit-ry, 1948. 81 p. (49-29335)

TS320.M635

MININ, P.I., inzh. (Kazan')

Sand and gravel quarries located in rivers. Put' i put. khoz. no.3:33-34 Mr '58. (MIRA 11:4)

(Tatar A.S.S.R.--Quarries and quarrying)

MININ, P.I., inzh.

Experience in riveting thick components in spans. Transp. stroi. 8 no.8:30-31 Ag '58. (MIRA 11:10)
(Bridges, Iron and steel) (Rivets and riveting)

MININ, P.I., inzh.

Device for checking dimensions of tunnels. Transp. stroi. 9 no.11: 42-44 N '59 (MIRA 13:3)
(Gauges) (Tunneling)

MININ, P.I., inzh. (Kazan')

Regulation of water flow under small bridges. Put' i put.khoz. no.12:9 D '59. (MIRA 13:4)
(Rivers--Regulation) (Railroad bridges)

MININ, P.I., inzh. (Kazan')

Practices in regulating the passage of spring floods under bridges. Put' i put.khoz. 4 no.3:11 Mr '60. (MIRA 13:5)

(Flood control)

MININ, P. I., CAND TECH SCI, "METHODS OF INSTRUMENTAL OBSERVATIONS OF THE TECHNICAL CONDITIONS OF TUNNELS AND LARGE-SCALE MINING." MOSCOW, 1961. (MIN OF HIGHER AND SEC SPEC ED RSFSR. MOSCOW MINING INST IM I. V. STALIN). (KL, 2-61, 210).

MININ, P.I., inzh.

Apparatus for surveying the inside of tunnels. Gor. zhur. no.4: 68-69 Ap '61. (MIRA 14:4)

1. Kazanskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo instituta transportnogo stroitel'stva.
(Mine surveying--Equipment and supplies)

MININ, P.I., kand.tekhn.nauk; GRITSYK, V.I., inzh.; KHRAMOV, M.G., inzh.

Stabilizing the banks of a dirt roadbed by planting grass. Transp. stroi. 11 no.4:34-36 Ap '61. (MIRA 14:5)
(Kazan--Railroads--Earthwork) (Soil binding)

MININ, P.I., kand.tekhn.nauk

Polar method of laying out the borders of the edges of cuttings on steel hillsides. Transp. stroi. 12 no.8:41-42 Ag '62. (Geodesy) (Earthwork)

MINIM, P.I., kand.tekhn.nauk

Instrument observations for the opening of the planned profile of a mine. Shakht. stroi. 7 no.1:23-25 Ja '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut okhrany truda Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov, Kazan'.
(Mine surveying)

L 07911-67 EWT(d)/EWT(1) GW

ACC NR: AP6032357 SOURCE CODE: UR/0270/66/000/007/0040/0040

34

AUTHOR: Minin, P. I.

TITLE: Effect of the shape of bright spots on the precision of determining distances in range-finder measurements

SOURCE: Ref. zh. Geodeziya, Abs. 7.52.281

REF SOURCE: Nauchn. raboty in-tov okhrany VTsSPS, vyp. 3(35), 1965, 102-105

TOPIC TAGS: optic range finder, measurement error, distance measurement, range finder, bright spot

ABSTRACT: An optical diagram of the INIM range finder has been analyzed for measuring the distance to points of the internal contour line of structures or mine cavities. Measurements may be carried out in total darkness. The method of light ranging, i.e., projection of bright spots on the observed point of a contour line, is used in the range finder. High measurement precision is achieved by means of rectangular bright spots having sides of 1:5 with the elongated sides positioned in the line of the transverse profile. The maximum error is 4.95 mm in measuring a distance of 4973 mm. [Translation of abstract]

Card 1/1 vmb SUB CODE: 08/ UDC: 528.514

MININ, P.I.

History of the plow in Russia. Trudy Inst.ist.est. i tekh. 8:3-21 '56.
(Plows) (MIRA 9:9)

MININ, P.I.

Russian agricultural machines and instruments at exhibitions in Russia. Trudy Inst.ist.est. i tekh. 8:230-248 '56. (MIRA 9:9)
(Agricultural machinery--Exhibitions)

MININ, P.I.

Development of the Russian farm machinery industry. Sel'khozmashina no.10:4-8 O '57. (MLRA 10:9)

(Agricultural machinery industry)

MININ, P. I. Doc Tech Sci -- (diss) "Development of designs and production of basic agricultural machines and grain-~~economy implements~~ farming tools in Russia and the USSR." Mos, 1959. 40 pp (Min of Higher Education USSR. Mos Inst of Mechanization and Electrification of Agriculture), 150 copies. List of author's works at end of text (17 titles) (KL, 50-59, 126)

MININ, P.I.;SHUMILKIN, V.K.

Analyzing assembly line production at agricultural machinery and tractor plants. Trakt. i sel'khozmash. no.11:38-41 N'59.(MIRA 13:3)
(Agricultural machinery industry) (Tractor industry)

MININ, P. N.

USSR.

The recovery of spent motor oils at the Shatursk peat works. P. N. Minin (Peat Combine, Shatursk). *Torfyanaya Prom.* ~~32, No. 1,~~ 17-19(1955).—A description is given of a lubricating-oil recovery plant in which the volatile constituents are eliminated by distn. and the dispersed impurities are adsorbed on bleaching clay; 65% of the used oil is regenerated, and its quality is close to that of the original oil.

W. M. Sternberg

MININ,P.N., inzhener

A stand for testing fuel pumps. Torf.prom.32 no.4:17-18 '55.
(MIRA 8:10)

1. Shaturskiy torfotrest.
(Fuel pumps--Testing)

MININ, P.N., val'tsovshchik stana kholodnoy prokatki

Work practices in cold rolling mills. Metallurg 7 no.8:34-35 Ag '62. (MIRA 15:9)

1. Trubovolochil'nyy tsekh Pervoural'skogo novotrubnogo zavoda.

(Pipe mills)